Chapter SPS 363

ENERGY CONSERVATION

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Note: Chapter Comm 63 as it existed on June 30, 2002 was repealed and a new chapter Comm 63 was created, Register December 2001 No. 552, effective July 1, 2002; Chapter Comm 63 was repealed and recreated, Register February 2008 No. 626, eff. March 1, 2008. **Chapter Comm 63 was renumbered chapter SPS 363 under s. 13.92 (4) (b) 1., Stats., Register December 2011 No. 672.**

Subchapter I — Purpose and Application

SPS 363.001 Purpose. This chapter regulates the design and construction of buildings for the effective use of energy. This chapter provides flexibility to permit the use of innovative approaches and techniques to achieve the effective use of energy. This chapter is not intended to abridge safety, health or environmental requirements contained in other applicable codes.

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08.

SPS 363.002 Application. (1) MIXED OCCUPANCY. Where a building includes both residential and commercial occupancies, each occupancy shall be separately considered and meet the applicable provisions of IECC chapter 4 for residential or IECC chapter 5 for commercial.

(2) EXEMPT BUILDINGS AND STRUCTURES. Glazed structures or glazed portions of buildings used for the production of plant life or for maintaining plant life as the primary purpose are exempt from the building thermal envelope provisions of this code, provided that glazed portions are separated from the remainder of the building by building thermal envelope assemblies complying with this chapter.

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08; CR 10−103: r. and recr. (2) Register August 2011 No. 668, eff. 9−1−11.

Subchapter II — Changes, Additions or Omissions to the International Energy Conservation Code (IECC)

SPS 363.0100 Changes, additions or omissions to IECC. Changes, additions or omissions to the IECC are specified in this subchapter and are rules of the department and are not requirements of the IECC.

Note: The sections in this chapter are generally numbered to correspond to the numbering used in the IECC, i.e., s. SPS 363.0101 refers to section IECC 101.

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08.

SPS 363.0101 Administration and enforcement. Except for IECC section 101.5.2, the requirements in IECC sections 101 and 103 to 109 are not included as part of this chapter.

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08; CR 10−103: am. Register August 2011 No. 668, eff. 9−1−11.

SPS 363.0202 General definitions. (1) ADDITIONS. This is a department definition for this chapter in addition to the definitions in IMC section 202: "Effective aperture" or "EA" means for windows, the visible light transmittance times the window wall ratio per wall; and for sky lights, the well efficiency times the visible light transmittance times the sky light area times 0.85 divided by the gross exterior roof area.

(2) SUBSTITUTIONS. Substitute the following definition for the corresponding definition listed in IECC section 202: "Approved" has the meaning given in s. SPS 362.0202 (2).

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08; correction in (2) made under s. 13.92 (4) (b) 7., Stats., Register August 2011 No. 668; **correction in (2) made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672.**

SPS 363.0302 Exterior design conditions. These are department rules in addition to the requirements in IECC section 302: The exterior design temperatures used for heating and cooling load calculations shall be as specified under Table 363.0302.

Table 363.0302
Exterior Design Conditions

County	Winter	Summer		County	Winter	Summer	
	Design Temp (F)	Dry Bulb (°F)	Wet Bulb (°F)		Design Temp (F)	Dry Bulb (°F)	Wet Bulb (°F)
Adams	–20	87	75	Marathon	–20	87	75
Ashland	–25	86	70	Marinette	–20	87	75
Barron	–25	86	75	Marquette	–15	87	75
Bayfield	–25	86	70	Menominee	–20	87	75
Brown	–15	87	75	Milwaukee	–10	89	77
Buffalo	–20	87	75	Monroe	–20	87	75
Burnett	–25	86	75	Oconto	–20	87	75
Calumet	–15	87	75	Oneida	–25	86	75
Chippewa	–25	86	75	Outagamie	–15	87	75
Clark	–20	87	75	Ozaukee	–10	89	77
Columbia	–15	87	75	Pepin	–20	87	75
Crawford	–15	87	75	Pierce	–25	86	75
Dane	–15	87	75	Polk	–25	86	75
Dodge	–15	87	75	Portage	–20	87	75
Door	–15	87	75	Price	–25	86	75
Douglas	–25	86	70	Racine	–10	89	77
Dunn	–25	86	75	Richland	–15	87	75
Eau Claire	–20	87	75	Rock	–10	89	77
Florence	–25	86	75	Rusk	–25	86	75
Fond du Lac	–15	87	75	St. Croix	–25	86	75
Forest	–25	86	75	Sauk	–15	87	75
Grant	–15	87	75	Sawyer	–25	86	75
Green	–15	87	75	Shawano	–20	87	75
Green Lake	–15	87	75	Sheboygan	–15	87	75
Iowa	–15	87	75	Taylor	–25	86	75
Iron	–25	86	70	Trempealeau	–20	87	75
Jackson	–20	87	75	Vernon	–20	87	75
Jefferson	–10	89	77	Vilas	–25	86	75
Juneau	–20	87	75	Walworth	–10	89	77
Kenosha	–10	89	77	Washburn	–25	86	75
Kewaunee	–15	87	75	Washington	–10	89	77
La Crosse	–20	87	75	Waukesha	–10	89	77
Lafayette	–15	87	75	Waupaca	–20	87	75
Langlade	–20	87	75	Waushara	–15	87	75
Lincoln	–25	86	75	Winnebago	–15	87	75
Manitowoc	–15	87	75	Wood	–20	87	75

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08; **correction made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672.**

SPS 363.0303 Materials, systems and equipment. These are department rules in addition to the requirements in IECC section 303.

(1) GENERAL. Except as specified in sub. (2), when available, information on thermal properties, performance of building envelope sections, and components and heat transfer shall be obtained from ASHRAE Handbook of Fundamentals.

(2) EXCEPTIONS. (a) When the information is not available from ASHRAE Handbook of Fundamentals, the data shall be obtained from laboratory or field−test measurements. If laboratory or field test measurements are used for envelope heat transmission, the measurements shall be obtained using one of the following test methods:

1. ASTM C177, Test method by guarded hot plate apparatus.

2. ASTM C335, Test method of horizontal pipe insulation.

3. ASTM C518, Test method by means of the heat flow meter apparatus.

4. ASTM C1363, Test method by means of a hot box apparatus.

(b) For foam plastic insulation that incorporates a substance other than air as the insulating medium, laboratory or field tests shall be conducted on representative samples that have been aged for the equivalent of 5 years or until the R–Value has stabilized to determine thermal properties or performance. The tests shall be conducted by an independent third party.

(c) Integrally insulated concrete masonry systems within the scope of the National Concrete Masonry Association (NCMA)

shall be evaluated for the thermal performance of the masonry or concrete units in accordance with one of the following:

1. NCMA Evaluation Procedures for the Integrally−Insulated Concrete Masonry Walls.

2. Default values as approved by the department.

(d) All other concrete or masonry units not within the scope of the NCMA Evaluation Procedures shall comply with one of the following methods for determining the thermal performance of the assembly or system:

1. Default values as approved by the department.

2. Laboratory or field−test measurements specified in par. (a).

3. Department material approval process as specified in ch. SPS 361 to determine the U−factor.

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08; CR 09−104: r. (1), (2) (title), renum (2) (a), (b) to be (1), (2) and am. Register December 2010 No. 660, eff. 1−1−11; CR 10−103: renum. from Comm 63.0102 and am. (intro.) Register August 2011 No. 668, eff. 9−1−11; **correction in (2) (d) 3. made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672.**

SPS 363.0401 Certificate. The requirements in IECC section 401.3 are not included as part of this code.

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08.

SPS 363.0403 Systems. (1) ELECTRICAL POWER AND LIGHTING. This is a department rule in addition to the requirements in IECC section 403: In residential buildings having individual dwelling units, provisions shall be made to determine the electrical energy consumed by each tenant by separately metering individual dwelling units.

(2) DUCTS. Substitute the following wording for the requirements in IECC section 403.2.2: All ducts, air handlers, and filter boxes shall be sealed. Joints and seams shall comply with IMC section 603.9.

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08; CR 10−103: r. and recr. (2), r. (3) Register August 2011 No. 668, eff. 9−1−11.

SPS 363.0405 Calculation software tools. This is a department informational note to be used under IECC section 405.6:

Note: The federal Department of Energy has developed REScheckTM, a computer program that may be used in demonstrating compliance for a residential building which has no more than 3 stories above grade and has 3 or more dwelling units. The REScheck program may be downloaded at http://www.energycodes.gov/. When using the program, the applicable code must be defined as the "2009 IECC." The use of the "Wisconsin" option will apply requirements associated with a 1 or 2 family dwelling, which are more restrictive than those associated with low−rise multifamily buildings.

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08; CR 10−103: renum. from Comm 63.0404 and am. Register August 2011 No. 668, eff. 9−1−11.

SPS 363.0501 General application. This is a department rule in addition to the requirements in IECC section 501.2: All of the following rules shall apply regardless of whether the IECC chapter 5 or ASHRAE 90.1 standard is used to determine compliance:

(1) Section SPS 363.0503 (1) relating to design loads.

(2) Sections SPS 363.0503 (3) and (4) relating to economizers.

(3) Section SPS 363.0505 relating to lighting systems.

(4) IECC section 505.2.2.1 relating to dual switching.

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08; CR 10−103: am. (2) Register August 2011 No. 668, eff. 9−1−11; **correction in (1), (2), (3) made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672.**

SPS 363.0503 Building mechanical systems. (1) CALCULATION OF HEATING AND COOLING LOADS. The following wording is a department requirement in addition to the requirements in IECC section 503.2.1: Design heating and cooling loads shall be determined in accordance with s. SPS 363.0302 and Table 363.0302.

(2) EQUIPMENT AND SYSTEM SIZING. Substitute the following wording for the requirements and the exceptions in IECC section 503.2.2: Heating and cooling equipment and systems shall be sized to provide the minimum space and system loads calculated in accordance with s. SPS 363.0302.

(3) HVAC SYSTEM COMPLETION. The requirements in IECC sections 503.2.9 to 503.2.9.3 are not included as part of this chapter.

(4) ECONOMIZERS SIMPLE HVAC SYSTEMS. Substitute the following wording for the requirements in IECC section 503.3.1 the first paragraph and Table 503.3.1 (1): Supply air economizers shall be provided on the following cooling systems:

(a) Package roof top units $\geq$ 33,000Btu/h.

(b) All other cooling systems $\geq$ 54,000 Btu/h.

(5) ECONOMIZERS COMPLEX HVAC SYSTEMS. Substitute the following wording for the requirements, but not the exceptions, in IECC section 503.4.1: Supply air economizers shall be provided on cooling systems as described under sub. (4). Economizers shall be capable of operating at 100 percent outside air, even if additional mechanical cooling is required to meet the cooling load of the building.

(6) CLIMATE ZONES 3 AND 4. Substitute the following wording for the requirements in IECC section 503.4.3.3.2.2: For climate Zones 5 through 8 as indicated in Figure 301.1 and Table 301.1, if an open−circuit cooling tower is used, then a separate heat exchanger shall be required to isolate the cooling tower from the heat pump loop, and heat loss shall be controlled by shutting down the circulation pump on the cooling tower loop and providing an automatic valve to stop the flow of fluid.

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08; correction made to (9) under s. 13.92 (4) (b) 7., Stats., Register February 2008 No. 626, eff. 3−1−08;CR 10−103: r. (3) to (6), Table 503.2.3 (1), Table 503.2.3 (2), Table 63.0503, (8), (9), renum. (7) to be (3), cr. (4), (5), (6) Register August 2011 No. 668, eff. 9−1−11; **correction in (1), (2) made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672.**

SPS 363.0504 Service water heating. (1) TEMPERATURE CONTROLS. The requirements in IECC section 504.3 are not included as part of this chapter.

(2) HEAT TRAPS. The requirements in IECC section 504.4 are not included as part of this chapter.

(3) POOL COVERS. The requirements in IECC section 504.7.3 are not included as part of this chapter.

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08; CR 09−104: cr. (3) Register December 2010 No. 660, eff. 1−1−11.

SPS 363.0505 Lighting systems. (1) CONTROLS. These are department rules in addition to the requirements in IECC section 505:

(a) *General.* Except as provided in par. (b), daylight zones in any interior enclosed space greater than 250 square feet and a lighting density more than 0.6 W/ft^2 shall have at least one control that meets all of the following requirements:

1. Controls only luminaires in the daylight zones.

2. Controls at least 50% of the lamps or luminaires in the daylight zone, in a manner described in IECC section 505.2.2.1.

(b) *Exceptions.* The requirements of this subsection do not apply to any of the following:

1. Daylight zones where the effective aperture of glazing is equal or less than 0.1 for vertical glazing and 0.01 for horizontal glazing.

2. Daylight zones where existing adjacent structures or natural objects obstruct daylight to the extent that effective use of daylighting is not feasible.

(2) LINE−VOLTAGE LIGHTING TRACK AND PLUG−IN BUSWAY. Substitute the following for the requirements in IECC section 505.5.1.4: The wattage of line−voltage lighting track and plug−in busway which allows the addition or relocation of luminaires without altering the wiring of the system shall be the volt−ampere rating of the branch circuit feeding the luminaries or an integral current limiter controlling the luminaires, or the higher of the

maximum relamping rated wattage of all of the luminaires included in the system, listed on a permanent factory installed label, or 30 W/linear foot.

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08; CR 10−103: r. (1), (2) (a) 3., (3), renum. (2), (4) to be (1), (2) and am. (1) Register August 2011 No. 668, eff. 9−1−11.

SPS 363.0506 Total building performance. This is a department informational note to be used under IECC section 506:

Note: ComCheck is a computer program that may be used only for determining building envelope or lighting compliance. The ComCheck computer program may be downloaded at:http:/www.energycodes.gov/.

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08.

SPS 363.0900 Referenced standards. This is a department rule in addition to the requirements in IECC chapter 6: The following standards are hereby incorporated by reference into this code:

(1) ASTM C177−04, Test method for steady−state heat flux measurements and thermal transmission properties by means of the guarded−hot−plate apparatus.

(2) ASTM C335−05, Test method for steady state heat transfer properties of horizontal pipe insulation.

(3) ASTM C518−04, Test Method for steady−state thermal transmission properties by means of the heat flow meter apparatus.

(4) ASTM C1363−05, Test method for thermal performance of materials and envelope assemblies by means of a hot box apparatus.

(5) National Concrete Masonry Association (NCMA) Evaluation Procedures of Integrally Insulated Concrete Masonry Walls, January 1, 1999.

Note: ASTM standards may be purchased from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

NCMA Evaluation Procedures may be obtained from the National Concrete Masonry Association, 2302 Horse Pen Road, Herndon, VA 20171−3499.

Copies of the standards adopted under this section are on file in the offices of the department, the legislative reference bureau.

History: CR 06−120: cr. Register February 2008 No. 626, eff. 3−1−08.